

REMARKS

Claims 1 to 21 are presently pending herein. Claims 1, 15, 18 and 20 are presented in independent form. Claim 15 has been amended to recite “steps of” instead of -- acts of --. This change does not in any way narrow the scope of Claim 15.

The Official Action dated April 3, 2006 rejected Claims 1 to 6, 8 to 16 and 18 to 21 under 35 USC § 102 as allegedly being anticipated by Timm et al. (i.e., U.S. Patent No. 6,522,730). Further, Claims 7 and 17 have been rejected as allegedly being obvious based on the combination of Timm et al. and O’Toole et al. (i.e., U.S. Patent No. 5,889,856). Applicants respectfully submit that these grounds of rejection are erroneous for at least the reasons provided below.

“Anticipation...requires that the *identical invention that is claimed* was previously known to others and thus is not new...*When more than one reference is required to establish unpatentability of the claimed invention anticipation under § 102 can not be found*, and validity is determined in terms of § 103.” *Continental Can v. Monsanto*, 948 F.2d 1264, 1267 (Fed. Cir. 1991)(emphasis added).

“A patent is invalid for anticipation *when the same device or method, having all the elements and limitations contained in the claims*, is described in a single prior art reference.” *ATD Corporation v. Lydall, Inc.*, 159 F.3d 534, 545 (Fed. Cir. 1998)(emphasis added). See also *Crown Operations International, Ltd. v. Krone*, 289 F.3d 1367, 1375 (Fed. Cir. 2002).

The single reference must have an enabling disclosure. See *Advanced Display Systems Inc. v. Kent State University*, 54 USPQ 2d 1673, 1679 (Fed. Cir. 2000)(“Accordingly, invalidity by anticipation requires that the four corners of *a single, prior art document* describe every element of the claimed invention, expressly or inherently, such that *a person of ordinary skill in the art could*

practice the invention without undue experimentation.”)(emphasis added); See also, *PPG Industries, Inc. v. Guardian Industries Corp.*, 37 USPQ 2d 1618, 1624 (Fed. Cir. 1996)(“To anticipate a claim, a reference must disclose every element of the challenged claim and *enable one skilled in the art to make the anticipating subject matter.*”)(emphasis added)

“To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. *Such evidence must make clear that the missing descriptive matter is necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can*, 948 F.2d at 1268. (emphasis added)

“*Inherency, however, may not be established by probabilities or possibilities.* The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)(emphasis added). See also, *Continental Can*, 948 F.2d at 1269.

“[T]he initial burden of establishing a *prima facie* basis to deny patenability to a claimed invention rests upon the examiner...In relying upon inherency, *the examiner must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ 2d 1461, 1464 (BPAI 1990)(emphasis in original)

Obviousness, ultimately, is a determination of law based on underlying determinations of fact. *Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH*, 139 F. 3d 877, 881 (Fed. Cir. 1998)
“These underlying factual determinations include (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art;

and, (4) the extent of any proffered objective indicia of non-obviousness." Id.

"The issue of obviousness is determined entirely with reference to a *hypothetical* 'person having ordinary skill in the art.' It is only that hypothetical person who is presumed to be aware of all of the pertinent prior art...A person of ordinary skill in the art is also presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights, it makes no difference which." *The Standard Oil Company v. American Cyanamid Company*, 774 F.2d 448, 454, 227 USPQ 293 (Fed. Cir. 1985)(emphasis in original)

The invention must be considered as a whole without the benefit of hindsight, and the claims must be considered in their entirety. *Rockwell International Corp. v. United States*, 147 F.3d 1358, 1364, 47 USPQ 2d 1027 (Fed. Cir. 1998)

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). It is impermissible to use the claimed invention as a blueprint from which to reconstruct the prior art to satisfy the claimed invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1139, 227 USPQ 543, 548 (Fed. Cir. 1985) ("From its discussion of the prior art it appears to us that the court, guided by the defendants, treated each reference as teaching one or more of the specific components for use in the Feil system, although the Feil system did not then exist. Thus the court reconstructed the Feil system, using the blueprint of the Feil claims. As is well established, this is legal error.")

The prior art must be considered as a whole and suggest the desirability and thus the obviousness of making the combination. *Lindemann Maschinefabrik GmbH v. American Hoist and*

Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)

Evaluated under these controlling legal standards, the rejections of Claims 1 to 21 cannot be sustained.

Applicants' invention, as set forth in Claim 1, is directed to a line interface for coupling a twisted pair telephone line with a communications network. The line interface comprises a broadband analog front end circuit coupling the twisted pair telephone line with the line interface and a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels. The plurality of separate variable bandwidth transmission channels are associated with the communications network and the frequency bands and the variable bandwidths are determined by programming the programmable filter.

By way of example only, Applicants direct the Examiner's attention to Figure 3 reproduced below in which the programmable filter 66 receives a signal from the broad band analog front end circuit 62 and filters this signal into a plurality of separate, variable bandwidth transmission channels 68:

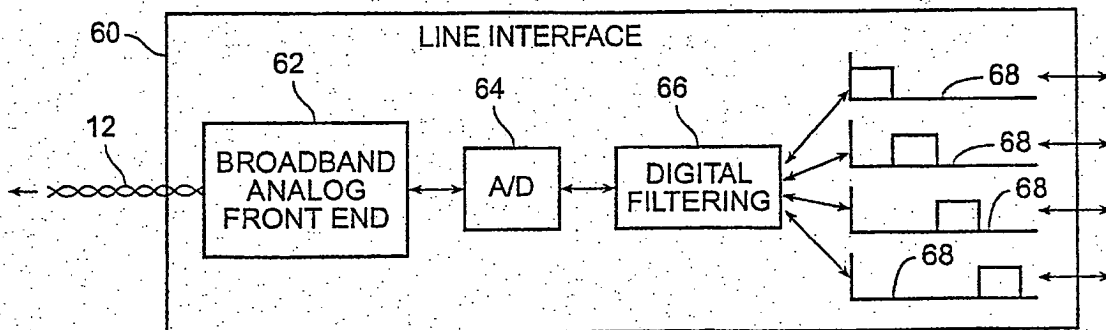
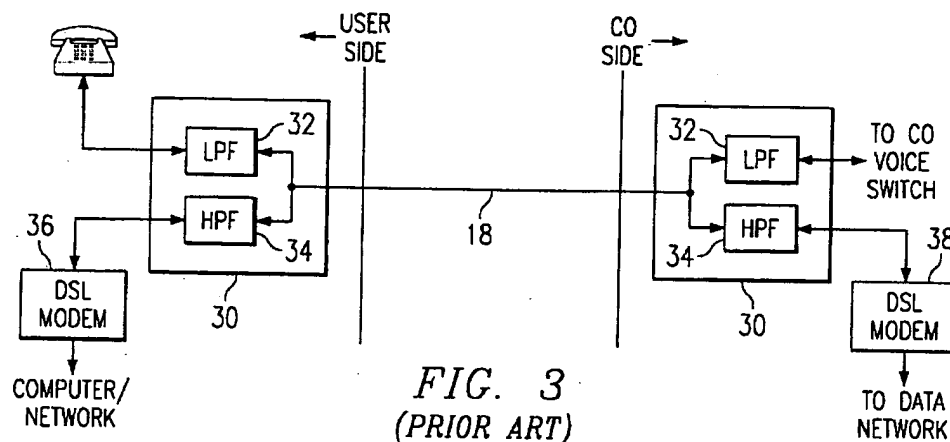


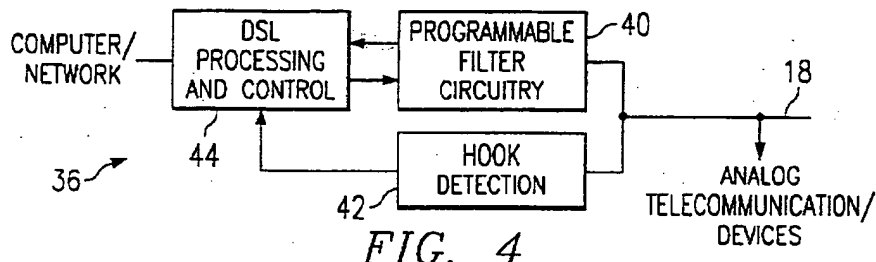
FIG. 3

Timm et al. does not anticipate or render obvious Applicants' invention, as recited in Claim 1. For example, Timm et al. does not teach or suggest a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels. The Examiner is interpreting splitter 30 depicted in Figure 3 reproduced below as the broadband analog front end circuit.



Splitter 30 as shown in the above figure sends a single data stream to the DSL modem 36 that includes the programmable filter 40 as shown in Figure 4. A single data stream exits the

programmable filter 40 as shown in Figure 4 reproduced below:



Nowhere does Timm et al. teach or suggest using the programmable filter 40 to filter the input from splitter 30 into a plurality of separate, variable bandwidth transmission channels. Rather, as clearly depicted in Figure 4 above a single data path is input into programmable filter 40 from the splitter 30 and a single data path exits the programmable filter 40. For this reason alone, Timm et al. cannot anticipate or render obvious Applicants' invention as set forth in Claim 1.

Applicants' invention, as recited in Claim 15, is directed to a method of providing a plurality of services over a twisted pair telephone line, comprising the steps of: receiving a broadband analog signal from the twisted pair telephone line; filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter to generate a plurality of variable

bandwidth channels; and transmitting the plurality of separate bands to a plurality of different service providers.

Timm et al. does not teach or suggest Applicants' invention as recited in Claim 15. As explained in connection with Claim 1, Timm et al. lacks any teaching of filtering a broadband analog signal using a programmable filter into a plurality of separate bands. Rather, a single data stream is input into programmable filter circuitry 40 and a single data stream is output from the programmable filter circuitry 40. As such, Timm et al. cannot possibly anticipate Claim 15 that requires the step of filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter to generate a plurality of variable bandwidth channels.

Applicants' invention, as recited in Claim 18, is directed to a line interface for coupling a twisted pair telephone line with a communications network. The line interface includes a broadband analog front end circuit coupling the twisted pair telephone line with the line interface and a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of different transmission channels. The plurality of different transmission channels include a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth wherein the programmable filter can be programmed to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths, respectively.

Timm et al. does not teach or suggest Applicants' invention as recited in Claim 18. For

example, as explained in connection with Claims 1 and 15, Timm et al. lacks any teaching or suggestion of a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of different transmission channels. For this reason alone, Claim 18 patentably defines over Timm et al.

Applicants' invention, as recited in Claim 20, is directed to a method of providing a plurality of services over a twisted pair telephone line. The method includes the steps of: receiving a broadband analog signal from the twisted pair telephone line; filtering the broadband analog signal using a programmable filter into a plurality of separate frequency bands including a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth; programming the programmable filter to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths, respectively; and, transmitting the first and second transmission channels to different service providers.

Timm et al. fails to teach or suggest Applicants' invention, as recited in Claim 20. For example, Timm et al. is completely devoid of any teaching or suggestion of the claimed steps of filtering the broadband analog signal using a programmable filter into a plurality of separate frequency bands including a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth and programming the programmable filter to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable

frequency bandwidths. The programmable filters in Timm et al. each receive a single data path input and output a single data path. Accordingly, Claim 20 is clearly patentable.

O'Toole does not teach or suggest any of the aforementioned deficiencies of Timm et al. Moreover, the Examiner relies upon O'Toole only in the rejection of dependent Claims 7 and 17.

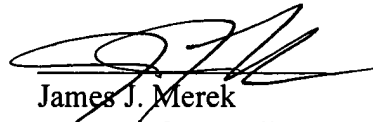
While Applicants do not concede that the combination of O'Toole and Timm et al. is obvious, all pending claims are patentable as independent Claims 1, 15, 18 and 20 are patentable for at least the reasons stated above. Accordingly, the subject patent application is now in condition for allowance.

It is believed that no additional fees are due. Should that determination be incorrect, however, the Patent Office Officials are further authorized to charge any deficiency to Deposit Account No. 50-0562 and notify the undersigned in due course.

Date:

2/29/00

Respectfully submitted,



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